Amendments to the Specification

Please **amend** the paragraph beginning on line 23, page 4 as follows:

When a phase-modulated optical input signal is being converted to a polarization-modulated signal the converter advantageously further comprises at the output of the birefringent medium, a second conversion stage comprising a polarization-sensitive device for converting the polarization-modulated signal and into a corresponding intensity modulated signal. Conversion from a polarization-modulated signal to an intensity-modulated signal is conveniently achieved ~~selected~~ by selecting one of the states of polarization of the polarization-modulated signal. Such an intensity-modulated signal can then be readily detected using a known photodetector.

Please **amend** the paragraph beginning on line 5, page 8 as follows:

Referring to Figure 1 there is shown a schematic representation of an optical modulation converter in accordance with the present invention that is designated as a whole by reference numeral 10. The optical modulation converter 10 is for optically converting the modulation format of an optical signal received an optical input ~~12~~ 11 into a corresponding optical signal having a different modulation format which is output from an optical output ~~13~~ 12. The converter comprises a known polarization controller 13 and a Birefringent Medium 14 connected in series between the optical input 11 and an optical output 12. Conveniently the birefringent medium comprises a selected length of Polarization Maintaining Fibre (PMF).

Please **amend** the paragraph beginning on line 1, page 14 as follows:

To convert the modulation format from DPSK to IM (or Amplitude Shift Keying ASK) the above-mentioned conversion to POLSK is firstly used and a known Polarization Selective Device (PSD) can then be used to select only one of the output polarization states to obtain the IM signal. A practical implementation of a converter/receiver for converting a DPSK modulated

input signal into a corresponding IM output signal is shown in Figure 4. The converter/receiver 10 comprises serially connected between the optical input 11 and output ~~12~~ 21: a first optical isolator 15; a first polarization controller ~~14~~ 13, a selected length of polarization maintaining fibre 14 (birefringent medium); a second optical isolator 16 ; an optical splitter17 ; a second polarization controller 18 ; a Polarization Beam Splitter (PBS) 19 (polarization sensitive device); and a photodetector 21 for detecting the IM signal. A second photodetector 20 is connected to the second output of the optical splitter 17 and is used for monitoring the POLSK converted signal. The DPSK input signal is applied to the polarization controller 13 via the optical isolator 15 to avoid stray reflections and improve stability as mentioned above. The first polarization controller 13 is configured to ensure that the polarization state of the input signal is appropriately aligned with the principal axes of the birefringent medium to ensure correct conversion of the BPSK input signal into a corresponding POLSK signal. The second optical isolator 16 is provided to reduce the effect of stray reflections. The second polarization control device 18 between the birefringent medium 14 and the polarization selective device 19 is operable to align the two SOPs of the POLSK signal with the axes of the polarization beam splitter PBS. The Polarization Beam Splitter (polarization selective device) 19 is operable to split the two polarization states of the POLSK signal such that one SOP passes to the photodetector 21 for detection and the other is output and discarded. As described the polarization selective device can be for example a polarized filter or a polarization splitter. The intensity-modulated signal obtained from the PBS is easily detected using a photodetector such as a photodiode 21. Thus can be realized a simple DPSK signal receiver.